

WHAT IS CLAIMED IS:

1. A pellicle for protecting a reticle, on which a circuit pattern is formed for manufacturing a semiconductor device, from an attachment of a foreign matter, comprising:

a pellicle film having a predetermined thickness, through which a light transmits to said reticle; and

a pellicle frame, on which a periphery of said pellicle film contacts, including:

a body part having a frame shape, the height of which is substantially constant all over said body part; and

an upper protruding part formed on an upper end of said body part that protrudes upward from said upper end of said body part for directly contacting with a surface of said pellicle film, the height of said upper protruding part being constant all over said upper protruding part.

2. A pellicle as claimed in claim 1, wherein said upper protruding part is formed on an inner edge of said upper end of said body part.

3. A pellicle as claimed in claim 1, wherein said upper protruding part is formed on an outer edge of said upper end of said body part.

4. A pellicle as claimed in claim 1, wherein said upper protruding parts are formed on the both of an inner edge and an outer edge of said upper end of said body part so that a recessed part is formed between said upper protruding parts.

5. A pellicle as claimed in claim 1, further comprising a lower protruding part formed on a lower end of said body part that protrudes downward from said lower end of said body part for directly contacting with a surface of said reticle, the height of said lower

protruding part being constant all over said lower protruding part.

6. A pellicle as claimed in claim 5, wherein said lower protruding part is formed on an inner edge of said lower end of said body part.

7. A pellicle as claimed in claim 5, wherein said lower protruding part is formed on an outer edge of said lower end of said body part.

8. A pellicle as claimed in claim 5, wherein said lower protruding parts are formed on both an inner edge and an outer edge of said lower end of said body part so that a recessed part is formed between said lower protruding parts.

9. A pellicle as claimed in claim 1, wherein said pellicle film and said pellicle frame is adhered such that said upper protruding part directly contacts a surface of said pellicle film, and an upper end of said body part contacts said surface of said pellicle film through an adhesive.

10. A pellicle as claimed in claim 5, wherein said pellicle frame and said reticle are adhered such that that said lower protruding part directly contacts a surface of said reticle, and a lower end of said body part contacts said surface of said reticle through an adhesive.

11. A pellicle as claimed in claim 1, wherein a top end of said upper protruding part having a sharp edge so that said upper protruding part contacting said pellicle film at one point along a cross sectional direction perpendicular to longitudinal direction of said upper protruding part.

12. A pellicle as claimed in claim 5, wherein a bottom end of

said lower protruding part having a sharp edge so that said lower protruding part contacts said reticle at one point along a cross sectional direction perpendicular to longitudinal direction of said lower protruding part.

13. A pellicle as claimed in claim 1, wherein said upper protruding part is formed all around an upper end of said body part.

14. A photomask comprising:

a reticle, on which a circuit pattern is formed for manufacturing a semiconductor device; and

a pellicle for protecting said reticle from an attachment of a foreign matter; wherein:

said pellicle has:

a pellicle film having a predetermined thickness, through which a light transmits to said reticle; and

a pellicle frame, on which a periphery of said pellicle frame contacts, including:

a body part having a frame shape, the height which are substantially constant all over said body part; and

an upper protruding part formed on an upper end of said body part that protrudes upward from said upper end of said body part for directly contacting with a surface of said pellicle film, the height of said upper protruding part being constant all over said upper protruding part.

15. A photomask as claimed in claim 14, further comprising a lower protruding part formed on a lower end of said body part that protrudes downward from said lower end of said body part for directly contacting with a surface of said reticle, the height of said lower protruding part being constant all over said lower protruding part.

16. A photomask as claimed in claim 15, wherein said upper

protruding part is formed on an inner edge of said upper end of said body part, and said lower protruding part is formed on an inner edge of said lower end of said body part.

17. A photomask as claimed in claim 15, wherein said upper protruding part is formed on an outer edge of said upper end of said body part, and said lower protruding part is formed on an outer edge of said lower end of said body part.

18. A photomask as claimed in claim 15, wherein:

said upper protruding part is formed on both an inner edge and an outer edge of said upper end of said body part so that an upper recessed part is formed between said upper protruding parts; and

said lower protruding part is formed on both an inner edge and an outer edge of said lower end of said body part so that a lower recessed part is formed between said lower protruding parts.

19. A pellicle frame arranged between a reticle, on which a circuit pattern is formed for manufacturing a semiconductor device, and a pellicle film, through which a light transmits to said reticle, comprising:

a first portion directly contacting said pellicle film; and
a second portion contacting said pellicle film through an adhesive that adheres the pellicle frame to said pellicle film.

20. A pellicle frame as claimed in claim 18, wherein said first portion directly contacts said reticle, and said second portion contacting said reticle through an adhesive that adheres said pellicle frame to said reticle.

21. A pellicle frame as claimed in claim 18, wherein a difference of height between said first portion and said second portion serves as an adhesive accommodation part for accommodating said adhesive.

22. A method for manufacturing a pellicle comprising:

forming a body part having a frame shape such that the height which is substantially constant all over said body part;

forming an upper protruding part on an upper end of said body part that protrudes upward from said upper end of said body part, the height of said upper protruding part being constant all over said upper protruding part;

forming a lower protruding part on a lower end of said body part that protrudes downward from said lower end of said body part, the height of said lower protruding part being constant all over said lower protruding part;

adhering a pellicle film having a predetermined thickness, through which a light transmits, to said pellicle frame such that an upper end of said upper protruding part directly contacts a surface of said pellicle film.

1004663 43101
" 329T00T
T04T00T